

REMARKS

The Office Action of December 22, 2008, has been carefully studied. Claim 1 currently appears in this application. This claim defines novel and unobvious subject matter under Sections 102 and 103 of 35 U.S.C., and therefore should be allowed. Applicant respectfully requests favorable reconsideration and formal allowance of the claims.

Claim Amendments

Claim 1 has been amended to recite that the claimed cyanine dye has a molar absorption coefficient (ϵ) of at least 5×10^4 . Support for this amendment can be found in the specification as filed at the paragraph bridging pages 13 and 14, and in Examples 1 and 2.

New claims 2 and 3 have been added. Support for claim 2 can be found in the specification as filed at page 6, line 1 through page 10, line 2. Support for new claim 3 can be found in the specification as filed at page 13, lines 24-25.

Rejections under 35 U.S.C. 112

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

This rejection is respectfully traversed. Claim 1 has been amended in accordance with the Examiner's helpful suggestions. It is respectfully submitted that claim 1, while sufficiently clear and definite before, is now even more clear and definite.

Art Rejections

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hohsaka et al., US 2001/0044074 and Namba et al., US 6,071,672, and Sun et al., *The Imaging Science Journal*, 47(2):113-117, 1999. The Examiner states that one of ordinary skill in the art would have been motivated to make the herein claimed cyanine dyes of Formula I by substituting a monomethine cyanine dye as disclosed by Namba or Sun for the trimethine cyanine dye of Hohsaka with the expectation that cyanine dyes with superior properties useful for optical recording media would be obtained.

This rejection is respectfully traversed.

First of all, it should be noted that in a compound comprising a cation and an anion, such as represented by Formula I of the present application, as well as those disclosed by Hohsaka, the physicochemical properties of the compound are largely affected by the particular combination of cation and anion. In fact, as shown in Table 1 of Hohsaka, the following compounds disclosed in Hohsaka exhibit different solubility in DAA (diacetone alcohol) at 20°C because of differences in cations and anions of the compounds as follows:

Compound	cation part	anion part	Solubility (mg/ml)
Chem. Form.42 Chem. Form.43	trimethine dye trimethine dye	Chem. Form. 1 Chem. Form.4	0.26 2.7
Chem. Form.13 Chem. Form.14	trimethine dye trimethine dye	PF ₆ ⁻⁻⁻ Sb F ₆ ⁻⁻⁻	143 74
Chem. Form.19 Chem. Form.20	trimethine dye trimethine dye	PF ₆ ⁻⁻⁻ Sb F ₆ ⁻⁻⁻	23 140
Chem. Form.30 Chem. Form.31	trimethine dye trimethine dye	PF ₆ ⁻⁻⁻ Sb F ₆ ⁻⁻⁻	15 141
Chem. Form.33 Chem. Form.34	trimethine dye trimethine dye	Sb F ₆ ⁻⁻⁻ Chem. Form.4	61 1.1

Similarly, as shown in Table 12 of Namba, the following compounds exhibit greatly different stabilities against light irradiation because of differences in the cation, even with the same anion.

Compounds (Sample No.)	100-h light resistance %
23 24	80 decolorized after 20 h
25 26	95 45

It is clear from the above tables that the physicochemical properties may differ greatly, depending on the particular cation or anion part of the compounds, even if the other part remains the same, and the results are unpredictable. As such, it is respectfully submitted that the person of ordinary skill in the art would not have been able to predict the physicochemical properties of the compounds obtained by replacing either the cation or the anion part of the compound with another cation or anion.

In view of this, it is respectfully submitted that no one would have been motivated to replace trimethine cyanine dye, the cation of the Hohsaka compounds, with the monomethine cyanine dye of Mamba with any reasonable expectation of success that cyanine dyes with superior properties useful for optical recording media would be obtained.

With respect to Sun, the Examiner states that Sun discloses indocyanine dyes having different methane chain lengths that are useful for optical recording media, and cites the conclusion at page 116 of Sun. However, it should be noted that compounds D-1 to D-4 of Sun have an anion "X", which is unknown. It is therefore believed, and respectfully submitted, that there is no reason to believe that the "X" in D-1 to D-4 of Sun is the same as the anion of the compounds disclosed in Hohsaka.

Furthermore, among compounds D-1 to D-4 of Sun, only D-1 comprises a monomethine cyanine dye, wherein "n" is 1. However, it should be noted that the molar absorption coefficient (ϵ) of compound D-1 is only 0.36×10^4 , which is much smaller than "at least 5×10^4 " as

claimed herein. Submitted herewith is a paper from Library Web Site of the University of Texas at Austin defining molar absorption coefficients, which states that the meaning of the "molar extinction coefficient (ϵ)" recited in table 1 of Sun is the same as the meaning of "molar absorption coefficient (ϵ)" recited in claim 1 of the present application.

It is clear that compound D-1 of Sun is inferior to the cyanine dyes claimed in claim 1 with respect to molar absorption coefficient. It is therefore respectfully submitted that one skilled in the art would not have been motivated to replace the cation of the the Hohsaka compounds, with the cation of the monomethine cyanine dye disclosed by Sun with a reasonable expectation of success in obtaining cyanine dyes having superior properties for use in optical recording media. There would have been no reason for doing so.

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In view of the above, it is respectfully submitted that the claims are now in condition for allowance, and favorable action thereon is earnestly solicited.

Respectfully submitted,

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